

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: SURFYNOL 440

Chemical name:
Ethoxylated Acetylenic Diols

Other means of identification

Recommended restrictions

Recommended use: Surfactant
Restrictions on use: Not determined.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Corporation
Nutrition & Care
PO Box 34628
Richmond, VA 23234
USA

Telephone : +1 804 727 0700

Fax : +1 804 727 0845

E-mail : product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)
Emergency : 800 681 9531 (CHEMTREC MEXICO)
+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Serious Eye Damage/Eye Irritation Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement:	Causes serious eye damage.
Precautionary Statements	
Prevention:	Wear eye protection/face protection.
Response:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Disposal:	Dispose of contents/container in accordance with local regulation.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Chemical name:
 Ethoxylated Acetylenic Diols

Substances

Chemical Identity	CAS number	Content in percent (%) [*]
Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol	9014-85-1	100%

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

General information:	Seek medical advice. If breathing is irregular or stopped, administer artificial respiration.
Inhalation:	Move to fresh air.
Skin Contact:	Wash off immediately with plenty of water for at least 15 minutes. Wash with soap and water. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Wash off immediately with soap and plenty of water.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Rinse immediately with plenty of water for at least 15 minutes.
Ingestion:	Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.
Personal Protection for First-aid Responders:	Use personal protective equipment., Wear self-contained breathing apparatus for firefighting if necessary.

Most important symptoms/effects, acute and delayed

Symptoms: Up to now no symptoms are known.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures
Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Alcohol resistant foam. Carbon Dioxide. Dry chemical. Dry sand. Limestone powder

Unsuitable extinguishing media: No data available.

Specific hazards arising from the chemical: Incomplete combustion may form carbon monoxide. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Accidental release measures: If possible, stop flow of product.

Methods and material for containment and cleaning up: Call Emergency Response number for advice. Approach suspected leak areas with caution. Place in appropriate chemical waste container.

Environmental Precautions: Construct a dike to prevent spreading.

7. Handling and storage
Handling

Technical measures (e.g. Local and general ventilation): Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Safe handling advice: Wash hands at the end of each workshift and before eating, smoking or using the toilet. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Avoid contact with eyes. Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols. Use personal protective equipment. Wash hands at the end of each workshift and before eating, smoking or using the toilet.

Contact avoidance measures: No data available.

Hygiene measures: Provide readily accessible eye wash stations and safety showers.

Storage

Safe storage conditions: Keep containers tightly closed in a dry, cool and well-ventilated place.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

None of the components have assigned exposure limits.
 Hazardous components without workplace control parameters

Appropriate Engineering Controls

Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection: Chemical resistant goggles must be worn.

Skin Protection

Hand Protection:

Additional Information: Neoprene gloves, Nitrile rubber. Additional Information: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Skin and Body Protection:

Long sleeve shirts and trousers without cuffs. No specific recommendations.

Respiratory Protection:

Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols through proper engineering controls such as exhaust ventilation and/or proper protective equipment such as a full-face air-supplied respirators. Not required for properly ventilated areas.

Hygiene measures:

Provide readily accessible eye wash stations and safety showers.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	light yellow
Odor:	Mild
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	291 °C
Flash Point:	> 110 °C
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.

Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	0.35 hPa (21 °C)
Vapor density (air=1):	No data available.
Density:	0.98 g/cm ³ (21 °C)
Relative density:	No data available.

Solubility(ies)

Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Kinematic viscosity:	No data available.
Dynamic viscosity:	No data available.

Other information

Explosive properties:	No data available.
Oxidizing properties:	No data available.
Minimum ignition temperature:	No data available.
Metal Corrosion:	No data available.

10. Stability and reactivity

Reactivity:	see section "Possibility of hazardous reactions"
Chemical Stability:	Stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	No data available.
Incompatible Materials:	Reactive metals (e.g. sodium, calcium, zinc etc.). Materials reactive with hydroxyl compounds. Dehydrating Agents. Oxidizing agents.
Hazardous Decomposition Products:	Carbon Monoxide. Carbon Dioxide. Aldehydes. Flammable hydrocarbon fragments. Heating above 65 °C in the presence of strong base can liberate flammable hydrocarbon fragments. Carbon oxides

11. Toxicological information
Information on likely routes of exposure

Inhalation:	Relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	Relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)****Oral****Product:** LD 50 ((Rat)): 6,300 mg/kg**Dermal****Product:** LD 50 (Rabbit): > 2,000 mg/kg**Inhalation****Product:** LC 50 (Rat): > 20 mg/l (as aerosol), No deaths observed.**Repeated dose toxicity****Product:**

Adult rats were orally administered this material or a component in the diet at the following concentrations 0, 500, 1000, and 2000mg/kg/day. The offspring were then treated at the same dose levels as their parents for 91 days. Litter size at birth and mean weanling weights were decreased in the 2000 mg/kg/day group. After 91 day on test, a significant increase in liver weights with accompanying microscopic changes was observed in both sexes in the high-dose group. The oral NOEL was 1000 mg/kg/day for both the reproduction and repeated dose phases of this experiment. Rats were orally administered this material or a component in the diet for 28 days at concentrations of 0, 750, 1500, 3000, and 6000 ppm. No adverse effects were seen at any of the dose levels. The oral No-Observed-Effect-Level (NOEL) was 6000 ppm. This material or a component was administered orally to dogs in gelatin capsules at dose levels of 0, 200, 400, and 600 mg/kg/day for 91 days. All dogs survived for the duration of this study with few clinical signs. The only adverse effect observed was an increase in liver weights at 400 and 600 mg/kg/day.

Skin Corrosion/Irritation**Product:** Mildly Irritating**Serious Eye Damage/Eye Irritation****Product:** Severe eye irritation**Respiratory or Skin Sensitization****Product:** No data available.**Carcinogenicity****Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity

Product: No data is available on the product itself.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: No data available.
LC 50 (Turbot (*Scophthalmus maximus*), 96 h): 52 mg/l

Aquatic Invertebrates

Product: No data available.
LC 50 (*Acartia tonsa*, 48 h): 166 mg/l
LC50 (10 d) : 553 mg/kg sediment; Species: *Corophium volutator*.

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.
EC 50 (*Skeletonema costatum*, 72 h): 105 mg/l

Persistence and Degradability**Biodegradation**

Product: No data available.
1 %

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: No data available.

Mobility in soil:

No data available.

Components:

Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol
No data available.

Other adverse effects:

Do not allow to enter soil, waterways or waste water canal.

13. Disposal considerations

Disposal methods:

Contact supplier if guidance is required.

Contaminated Packaging:

Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. Transport information

Domestic regulation

49 CFR

Not regulated as a dangerous good

Remarks : Not dangerous according to transport regulations.

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

<u>Chemical Identity</u>	<u>OSHA hazard(s)</u>
Ethoxylated 2,4,7,9-tetramethyl 5 decyn-4,7-diol	Irritant

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Serious eye damage or eye irritation

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
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SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

 US TSCA Inventory: Included on Inventory.
 Canada DSL Inventory List: Included on Inventory.

16. Other information, including date of preparation or last revision
HMIS Hazard ID

Health	2
Flammability	1
Physical Hazards	0
PERSONAL PROTECTION	X

Ask supervisor or safety specialist for handling instructions

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

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Further Information: No data available.

Revision Information: Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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